MODIS Technical Team Meeting
Thursday, May 10, 2001
3:00 PM

Vince Salomonson chaired the meeting. Present were Chris Justice, Eric Vermote, Ed Masuoka, David Herring, Dorothy Hall, Bill Barnes, Jacques Descloitres, Bob Murphy, Gary Alcott, Bruce Vollmer, Jack Xiong, Barbara Conboy, Wayne Esaias, and Ken Anderson, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming Events

- Ocean Color Science Meeting — May 22-24, 2001
  San Diego, CA
- MODIS Science Team Meeting (tentative dates) — September 24-26, 2001
  Location: TBD

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported that the MODIS team has an opportunity to present to Al Diaz on May 21st in H114 from 1 to 4 P.M. Steve Platnick will present for the Atmosphere group, Esaias for oceans, and Vermote for land. Salomonson will provide an overview of sensor and data system performance to begin the session and follow the discipline group presentations with a summary of the resources being devoted to MODIS and upcoming objectives and challenges. There will also be some time for discussions with the Center Director and his staff. Salomonson indicated that there would be a center-wide announcement of the presentation.

Salomonson next provided his reactions to the draft of the updated disclaimers for the L1B that are going to appear on the DAAC page. He suggested that a preface be added to the effect that “the L1B is workable, usable, but still being worked on in the following areas.” He felt that the Oceans and Atmosphere product disclaimers could be used as a model. Also the page needs to be arranged so that it is clear what the timeline is, and which caveats apply to which segments of the data set. Xiong indicated that the MCST page has the timelines indicated, and that they would provide that information to the DAAC.

Bob Murphy raised the issue of how we would label the 1B as far as the product quality definitions go, as it makes little sense to call the higher level products “provisional” if the L1B is not. Vermote suggested the issues was complicated by the fact that not all products use all bands (from the L1B) and so a blanket statement about all areas of the L1B would not necessarily be appropriate.

Salomonson next raised several issues that were discussed the previous day’s PIP meeting. First, there was the need for checking the output of the consistent-year algorithms quickly after production begins to find any major bugs, which means the team really needs to be watching things closely. What fixes would be allowed, and whether the data would be reprocessed right away would likely be determined on a case-by-case basis, and would likely be dependent on how big a problem was discovered and how long it would take to get the fix in. He also reported that the PIP group has discussed the issue of MODIS browse imagery, and what browse might be generated and used within the ECS system (and thus would appear in the EDG.) The disciplines currently produce their own browse at various levels, and the question is what common browse might the team want produced and provided to users via the EDG and how would it be produced. Robert Wolfe and Greg Leptoukh will be arranging a meeting to discuss the issues further.

2.2 Software Distribution

Next the group discussed software distribution. Esaias said that it is very important to Oceans that the issue be addressed in time for start of the consistent year production because the Oceans team has been telling its users that the code associated with the consistent year processing/reprocessing is the code they want. Users have been waiting for this code, and it’s important that we be able to provide it to them.

Esaias summarized the issue by saying that we have to give out the software, and while the DAAC is equipped and funded to distribute code, their user services staff is unprepared to handle technical questions. Masuoka voiced the concern that the SDST staff who integrates our PGEs would be the only ones with enough knowledge of the code to provide technical support, and then they would be drawn away from their primary responsibility. The issue, then, is who should take on the technical support role. ECS appears to be overwhelmed and may not be able to step up to the role.

There was a discussion of what level of support should be provided, and Murphy suggested that a good approach would be to port the code to a limited number of platforms (perhaps just one) and provide support for only those platforms, e.g. for direct broadcast. Esaias agreed, but said we need to hurry up and decide which one(s) that will be.

Salomonson indicated that with respect the policy side of the issue of public release of the software, Ron Kaese from the GSFC Technology Commercialization Office (Code 750) is still waiting for various paperwork items from us, including a statement of intellectual property rights from the SST PI. Salomonson's belief is that we can and must distribute freely to government or educational users, but that intellectual rights can be claimed as far as commercial use of the code is concerned. Salomonson indicated that we need to get Ron Kasey (needs input from Masuoka) going on this matter and work with ECS to see what needs to be done in order to provide the necessary support.

2.3 Consistent Year Processing

Salomonson asked about the Cloud Mask Conference and whether the consensus was that the Cloud Mask would be ready for the consistent year. King and Vermote, both of whom had attended the meeting, indicated that it would be ready. Salomonson asked whether that meant it would be ready and would not need to be changed for the duration of the processing. Vermote said no. Many fixes have been introduced and there were some marked improvements, but other issues had been identified, and solutions had been proposed, but would not be ready for the start of the consistent year.

The question then, is what changes in the cloud mask (or other algorithms) would be allowed. Justice said that guidelines should be developed. Salomonson asked Esaias what effect changes in the data set over time would have on validation efforts. Esaias indicated that they would just assign uncertainties to different parts of the set. However, it changes were going to be made, they would have to be made quickly. Salomonson emphasized that everyone would have to be on the same page as to when changes come in.

Murphy stated that the core of the problem of when or whether to introduce changes is that the team is not invested in keeping the products the same. The question is would our users prefer an improved product or a consistent product. It seems that our users should be involved in helping make the decision.

2.4 MODIS and the Earth Observatory (EO)

Herring informed the group of a new "blue marble" Earth image that is being developed using MODIS surface reflectance and cloud data. The image is being developed primarily for use at the Olympics next year, where it will be projected onto a six-story globe for exhibition. The image will also be used as the standard beauty shot of Earth. The EO is working with Reto Stockli of Fritz Hasler's lab. He has been pulling many small sets of data in and stitching them together on his end. The plan now is to have a place on MODAPS to stage the data, where Stockli could pull the data to one of Fritz's machines. Curt Tilmes felt that the amount of data needed would be small, and would have negligible

impact on MODAPS' production or distribution. Stockli needs about 250 GB of surface reflectance data for each season and about 300GB total of atmosphere data. Salomonson wanted to make sure the team was OK with the idea of MODAPS staging this data, and that no one was concerned about impacts on production. Everyone agreed the idea was fine.

Herring also reported that with respect to using rapid response, in particular MODIS images, and the conflicting goals of PAO, which primarily wants to prepare material for TV (which takes longer, and often prevents timely release of current event imagery), and the EO, which prepares digital material for web publication, the two have reached an agreement. They agreed that PAO would be able to see on a daily basis what the EO was working on, and would be welcome to use the material, but that if they could not prepare material quickly enough for their own release, then EO could go ahead with posting it on the web.

2.5 Land Rapid Response System

Jacques Descloitres gave a presentation on the status of the land rapid response system. Using the hardware and people from the 250-m production system, they have developed a system using the IMAPP software distributed by the University of Wisconsin. They receive L0 data from NOAA within about 2-3 hours of spacecraft acquisition, and turn around a fire product and an RGB image (corrected reflectance) overlaid with the fire product. They have been receiving data for about 15 days, and they have experienced few data drops. The products currently are sent to Justice's group and the US Forest Service.

They produce most of the daylight land surface—about 90 granules out of 288. They produce an operational L2 without bow-tie correction, but then follow that up with a correction for a few limited areas, i.e., the ones that the forest service are interested in. They would like to port what we do into the MODIS Direct Broadcast system because the forest service is building a DB station, and wants to be able to do this on their own.

Justice said that as far as funding, they are shooting for external sources, and have written a few proposals to the forest service to work with Utah in the burned area rehabilitation efforts. Masuoka reported that they had been helping out by trying to help NOAA out with the bit flip issues. Justice indicated that making sure that the code is openly available is a priority for them, and they think that can achieve through Pat Coronado's group. He also emphasized that the system is R&D only, and that if others want to use it truly operationally, they could do so, but we would provide minimal support.

The url for the system is http://rapidfire.sci.gsfc.nasa.gov/L2, and it is still under construction.

2.6 Instrument and L1 Update

Ken Anderson reported there is a problem with Bands 1 and 2 gains on FM1. Their response is low, and they have gone out of family. They think it is almost certainly due to focal plane L1 software. They are working to understand it, and it doesn't appear to be a contamination or calibration problem. Xiong said they are seeing something similar in Band 23 and 32. Barnes said they are 5 % out of family, with a total drop of about 10%. All forty detectors are behaving the same. If we don't fix the problem, we will get less saturation, and the bands will be less sensitive.

Xiong reported that MCST had made its consistent year code delivery to the DAAC. They are also talking with SBRS about recent SRCA testing and LWIR Vdet Sweep test.

2.7 Data processing

Alcott reported that things are gong well at the DAAC, and that April was the best month so far--only missing 15 minutes.

Masuoka said that he had raised with EDOS the question of the three hours and they are looking at what can be done. He thinks the problem is due to the feed they get from White Sands. To try to get better than specifications through the ground system is hard to do.

Masuoka also reminded the Land Team that SDST is still waiting for several Level 2 PGEs and about 15 other PGEs.

2.8 Conclusion

With respect to the results symposium, the possibilities of having it at Miami or Tucson are being explored. Nothing is firm as yet. Jon Ranson, Terra Project Scientist, is examining whether this effort should be a Terra Results Conference. So far the other Terra instruments seem to be in favor. The Science Team Meeting is currently being planned for September 24-26.

Esaias reported that he spoke with Eric Lindstrom (NASA/HQ/Code YS) about the deep space maneuver, and he seemed favorably disposed toward it. King reported that Graeme Stephens and Deborah Vane are coming to Goddard next week to discuss how to subset MODIS data to work with Cloudsat. He extended an invitation to Salomonson and others. The meeting will be on Thursday from 2-3:30.

3.0 Action Items

3.1 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.2 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.

Status: Open.